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10/006,597	12/04/2001	Christoph Hilgert	22750/514	3533

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EXAMINER

KYLE, MICHAEL J

ART UNIT	PAPER NUMBER
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3676

DATE MAILED: 02/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/006,597

Applicant(s)

HILGERT, CHRISTOPH

Examiner

Michael J Kyle

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 17-32 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 17-32 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: Page 3, Line 5, makes reference to “claim 1”. A claim should not be referred to in the specification because that claim may be changed, which would then change the scope presented in the specification.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. Claims 17-32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. Claim 17 recites the limitations "the outer contour" and “the cylinder head” in lines 4 and 5, respectively. There is insufficient antecedent basis for this limitation in the claim.

4. Claim 17 recites the limitation "the cavity" in line 6. There is insufficient antecedent basis for this limitation in the claim. In addition, it is unclear if “the cavity” is the same as “at least one peripheral self contained cavity”. Furthermore, based on the limitations above, it is unclear if there is only one cavity, or at least one cavity, being set forth.

5. Claim 21 recites the limitation "the bead" in line 2. There is insufficient antecedent basis for this limitation in the claim. Furthermore, it is unclear if “the bead” is the same as the “at least one bead” from claim 19.

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6. Claim 22 recites the limitation "the first bead" in lines 2-3. There is insufficient antecedent basis for this limitation in the claim. As best understood by the examiner, "the first bead" is the same as "the bead" from claim 21.
7. Claim 24 recites the limitation "the first metal sheet" in line 3. There is insufficient antecedent basis for this limitation in the claim. As best understood by the examiner, "the first metal sheet" is the same as "the metal sheet" from claims 17-19.
8. Claim 25 recites the limitation "the connection" in lines 3-4. There is insufficient antecedent basis for this limitation in the claim.
9. Claim 25 recites the limitation "the cavities" in line 4. There is insufficient antecedent basis for this limitation in the claim. Furthermore, it is unclear if "the cavities" are related to the "at least one peripheral self contained cavity" of claim 17.
10. Claim 26 recites the limitation "the second beads" in line 2. There is insufficient antecedent basis for this limitation in the claim.
11. Claims 28 and 29 recite the limitations "a substance" and "the substance", respectively. It is unclear if the "substance" is the same as "a hydraulic medium" set forth in claim 17. If the "substance" is different from "a hydraulic medium", it is unclear how a cavity "completely filled with a hydraulic medium" (claim 17) can also be "filled with a substance".
12. Claims 18-20, 23, 27, and 30-32, all depend from rejected claim 17 and included all of the limitations of the claim, thereby rendering these dependent claims indefinite.

Claim Rejections - 35 USC § 102

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13. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

14. Claims 17-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Ueta (U.S. Patent No. 5,951,021). Ueta discloses a gasket comprising at least one metal sheet (11) provided with a coating of an elastomer film (12) at least on sides facing outward in at least one sealing area and which has an edge area formed by an outer contour, adjacent to at least one peripheral self contained cavity, where the at least one peripheral self contained cavity is filled completely with a hydraulic medium (17), and the metal sheet (11) is flanged back onto itself in the edge area forming the cavity, and is joined to itself adjacent the cavity.

Claim Rejections - 35 USC § 103

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

16. Claims 17-20 and 28, and 30-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida et al (U.S. Patent No. 5,582,415) in view of Jacobs (U.S. Patent No. 4,140,323). Yoshida et al discloses a flat gasket comprising at least one metal sheet (11) which is provided with a coating of an elastomer film (30) at least on sides facing outward in at least one sealing area and which has an edge area formed by the outer contour adjacent to at least one

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peripheral self contained cavity (shown in figure 17). However, Yoshida et al does not disclose a cavity being completely filled with a hydraulic medium.

17. Jacobs teaches a gasket having a cavity (34) that is completely filled with a hydraulic medium (36) in order to prevent the embossment (around cavity 34) from flattening out and losing much of its intended sealing capacity. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Yoshida et al as taught by Jacobs in order to prevent the bead from flattening out and losing sealing capacity.

18. With respect to claims 18-20, Yoshida et al discloses the metal sheet is flanged back onto itself in its edge area forming a cavity (figure 14) and is joined to itself adjacent the cavity, a cavity is enclosed by at least one bead (16) of the metal sheet and a second metal sheet (44) bridging the bead, the metal sheet and the second metal sheet being permanently joined together adjacent to the bead, and the metal sheet and the second metal sheet are joined in a fluid tight manner (column 5, lines 6-10).

19. With respect to claim 28, Yoshida et al discloses a cavity filled with a substance that is liquid at least under operating conditions. The examiner asserts that any substance in the cavity will become a liquid under operating conditions that create a temperature above the substance's melting point.

20. With respect to claims 30-32, Yoshida et al discloses the cavity to be filled with a polymer material that is plastically or elastically deformable and that the polymer material is silicone. Yoshida et al also discloses at least two flat gaskets (figure 17).

21. Claims 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida et al in view of Jacobs as applied to claim 19 above, and further in view of Maeda et al (U.S. Patent

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no. 6,145,847). Neither Yoshida et al nor Jacobs discloses the second metal sheet to have a second bead in the area of the first bead, the second bead having a different design from that of the first bead, or the second bead having a profile with a smaller cross section than the first bead.

22. Maeda et al teaches a second metal sheet (2) to have a second bead (5') in the area of the first bead (5), the second bead having a different design from that of the first bead, or the second bead having a profile with a smaller cross section than the first bead (figure 6) in order to enhance sealing performance on the side of the cylinder head in a controlled manner. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the second metal sheet of Yoshida et al, as taught by Maeda et al, in order to enhance sealing performance on the other side of the gasket in a controlled manner.

23. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida et al in view of Jacobs as applied to claim 19 above, and further in view of Pearlstein (U.S. Patent No. 4,428,593). Neither Yoshida nor Jacobs disclose the second metal sheet to have second bead in mirror image to the bead of the first metal sheet.

24. Pearlstein teaches a gasket with a second sheet having a second bead in mirror image to the bead of the first sheet, in order to enhance sealing performance on both sides of the gasket. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Yoshida et al and Jacobs as taught by Pearlstein in order to enhance sealing performance on both sides of the gasket.

25. Claims 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida et al in view of Jacobs as applied to claim 19 above, and further in view of Hiramatsu et al (U.S. Patent No. 6,135,459). Neither Yoshida et al nor Jacobs discloses a third metal sheet arranged

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between a first metal sheet and the second metal sheet, the third metal sheet included in a connection between the first and second metal sheets, and or the cavities on both sides of the third metal sheet to be in hydraulic communication with one another. Yoshida et al and Jacobs also do not disclose the third metal sheet to have a third bead having a differently shaped profile, or that the first, second, or third beads are subdivided into at least two partial beads.

26. Hiramatsu et al teaches a third metal sheet (4) arranged between a first metal sheet (2) and the second metal sheet (3), the third metal sheet included in a connection between the first and second metal sheets, and or the cavities on both sides of the third metal sheet to be in hydraulic communication with one another in order to restrict the total compression of the beads. Hiramatsu also teaches the third metal sheet to have a third bead having a differently shaped profile and that the first (6) and second (7) beads are subdivided into at least two partial beads (figure 2) in order to further enhance sealing performance. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Yoshida et al and Jacobs as taught by Hiramatsu et al in order to restrict the total compression of the beads and to enhance sealing performance.

Allowable Subject Matter

27. Claim 29 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

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28. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


29. The following references are cited to further show the state of the art with respect to head gaskets with beads or structures with beads filled with a substance: Ulmer et al, Udagawa et al, Udagawa, Ueta et al., Ueta (U.S. Patent No. 5,370,406), Li, Hasagawa, and JP 6466453.

30. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J Kyle whose telephone number is 703-305-3614. The examiner can normally be reached on Monday - Friday, 8:30 am - 5:00 pm.

31. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony Knight can be reached on 703-308-3179. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9326 for regular communications and 703-872-9327 for After Final communications.

32. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-2168.

mk
February 6, 2003


Anthony Knight
Supervisory Patent Examiner
Tech Center 3600